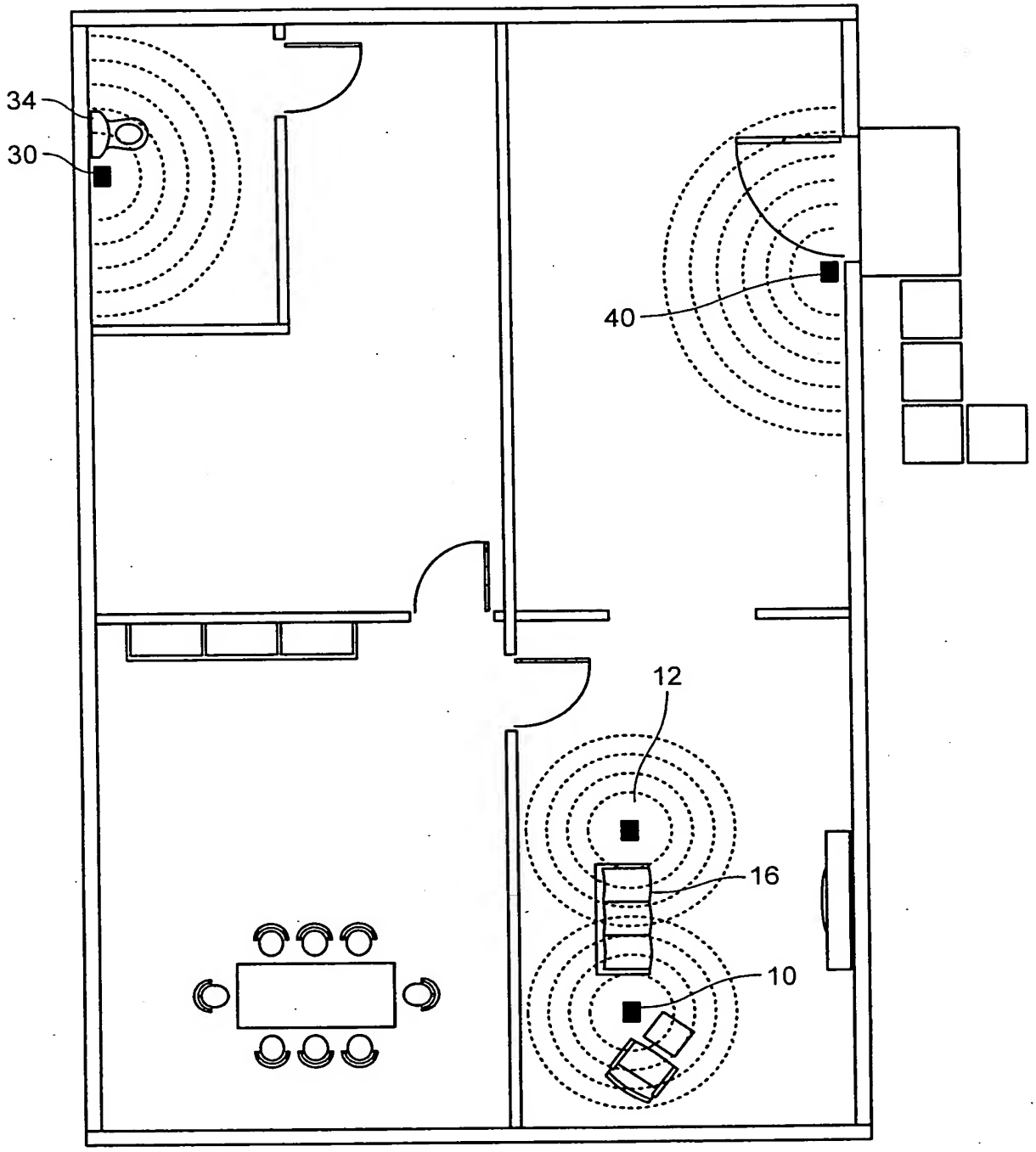

FIG. 1

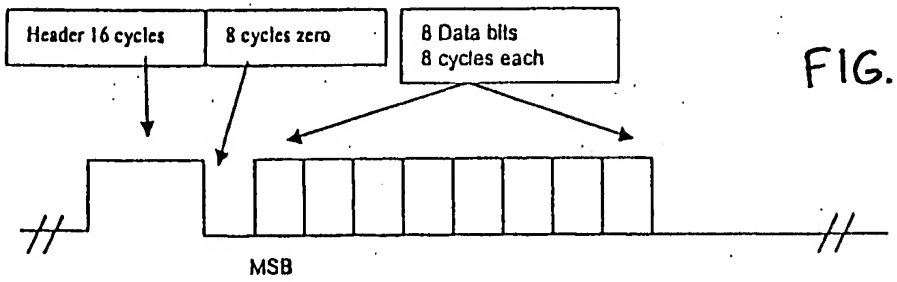
Header 16 cycles
8 cycles zero
8 Data bits
8 cycles each
MSB

FIG. 2

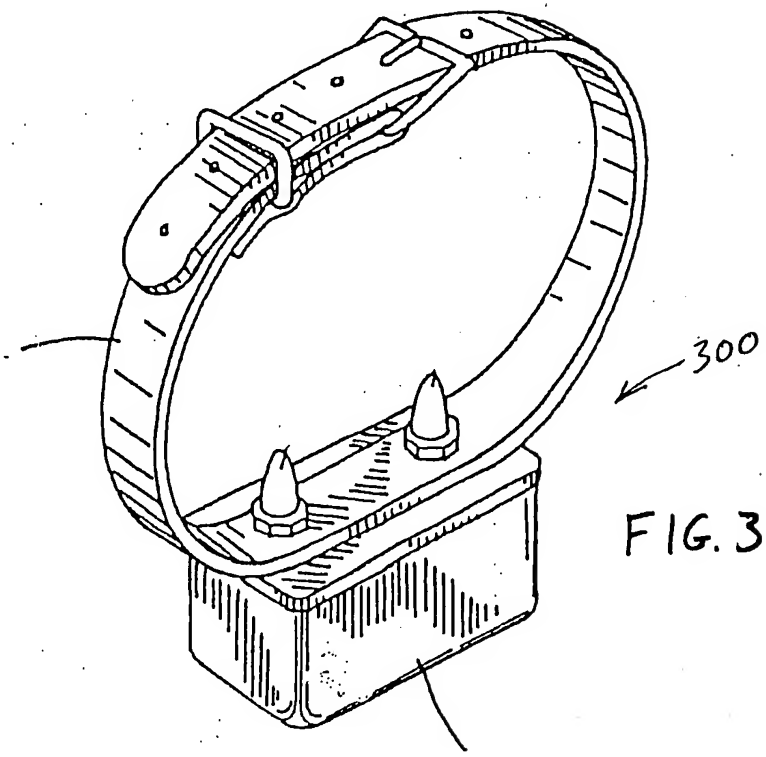
300

FIG. 3

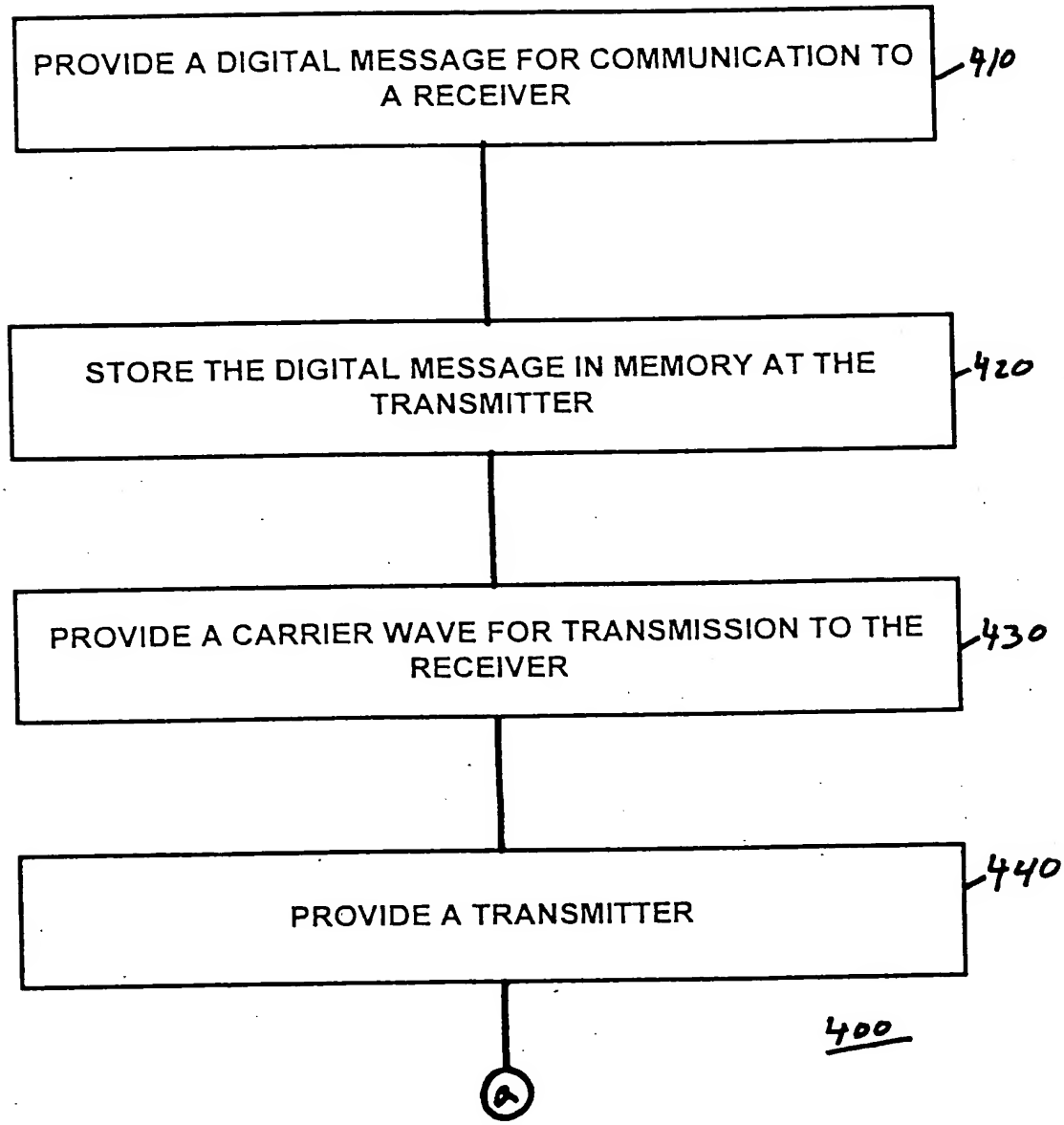
PROVIDE A DIGITAL MESSAGE FOR COMMUNICATION TO A RECEIVER
410
STORE THE DIGITAL MESSAGE IN MEMORY AT THE TRANSMITTER
420
PROVIDE A CARRIER WAVE FOR TRANSMISSION TO THE RECEIVER
430
PROVIDE A TRANSMITTER
440
400
a

FIG. 4a

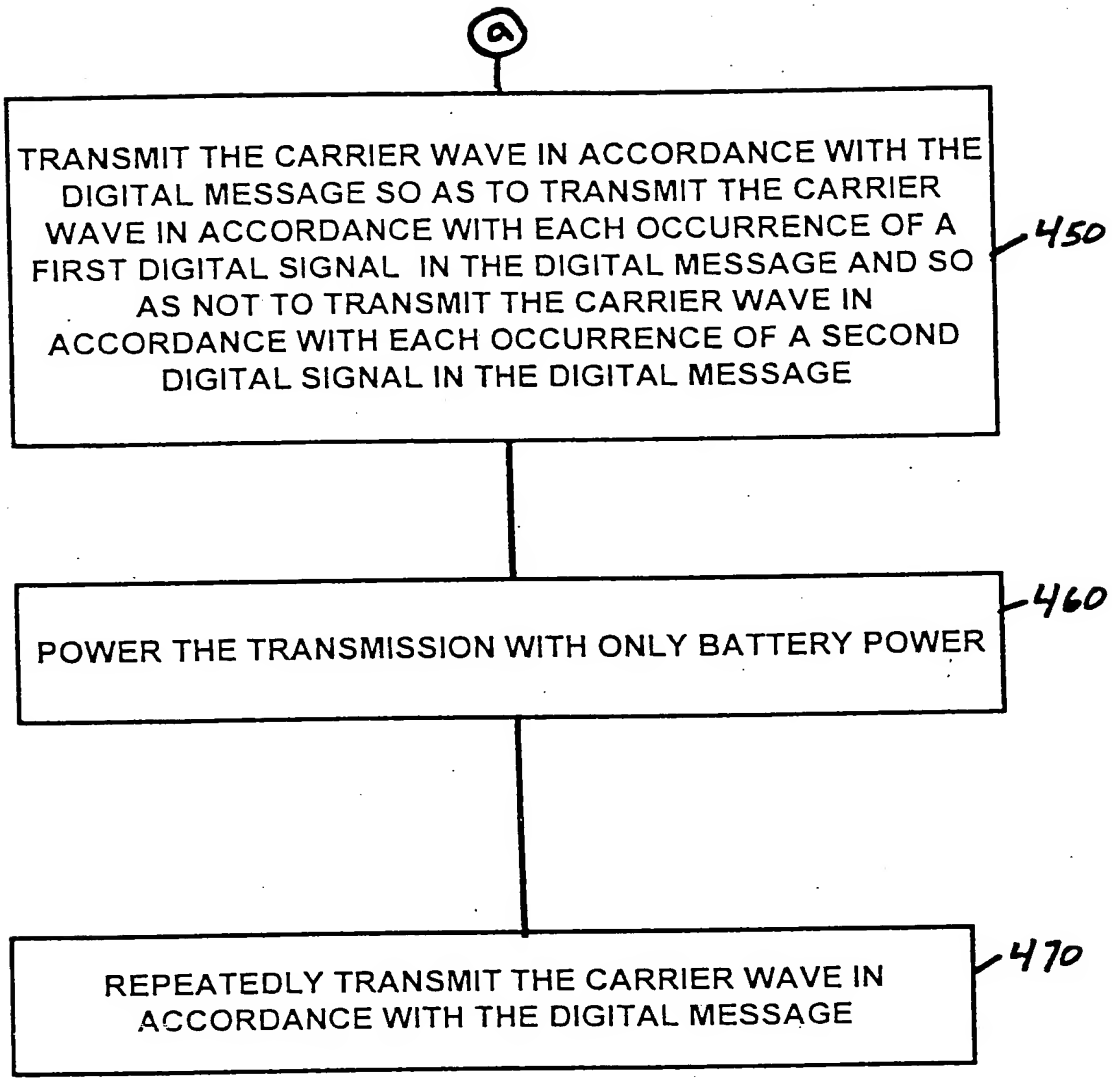
a
TRANSMIT THE CARRIER WAVE IN ACCORDANCE WITH THE DIGITAL MESSAGE SO AS TO TRANSMIT THE CARRIER WAVE IN ACCORDANCE WITH EACH OCCURRENCE OF A FIRST DIGITAL SIGNAL IN THE DIGITAL MESSAGE AND SO AS NOT TO TRANSMIT THE CARRIER WAVE IN ACCORDANCE WITH EACH OCCURRENCE OF A SECOND DIGITAL SIGNAL IN THE DIGITAL MESSAGE
450
POWER THE TRANSMISSION WITH ONLY BATTERY POWER
460
REPEATEDLY TRANSMIT THE CARRIER WAVE IN ACCORDANCE WITH THE DIGITAL MESSAGE
470

FIG. 4b

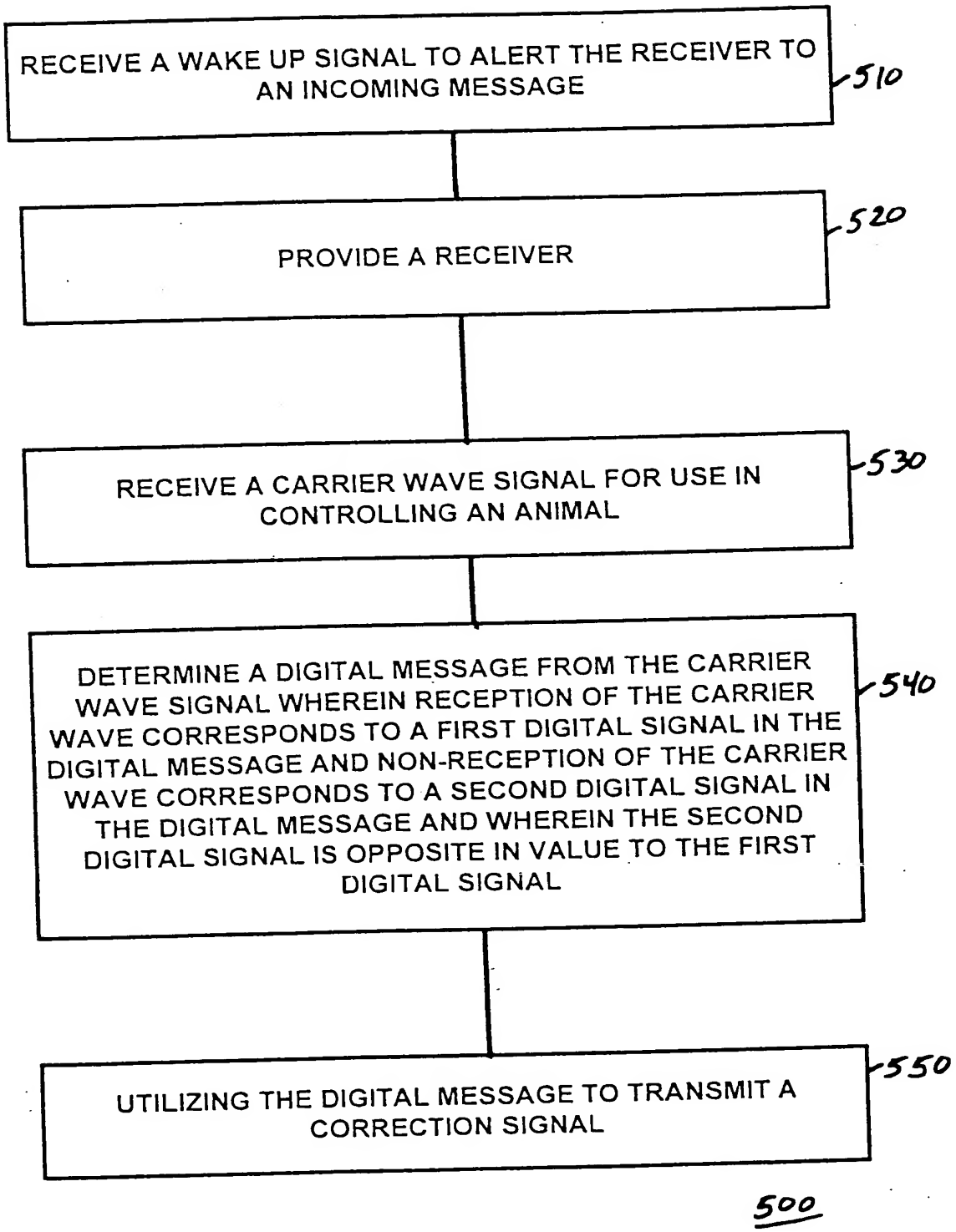
RECEIVE A WAKE UP SIGNAL TO ALERT THE RECEIVER TO AN INCOMING MESSAGE
510
PROVIDE A RECEIVER
520
RECEIVE A CARRIER WAVE SIGNAL FOR USE IN CONTROLLING AN ANIMAL
530
DETERMINE A DIGITAL MESSAGE FROM THE CARRIER WAVE SIGNAL WHEREIN RECEPTION OF THE CARRIER WAVE CORRESPONDS TO A FIRST DIGITAL SIGNAL IN THE DIGITAL MESSAGE AND NON-RECEPTION OF THE CARRIER WAVE CORRESPONDS TO A SECOND DIGITAL SIGNAL IN THE DIGITAL MESSAGE AND WHEREIN THE SECOND DIGITAL SIGNAL IS OPPOSITE IN VALUE TO THE FIRST DIGITAL SIGNAL
540
UTILIZING THE DIGITAL MESSAGE TO TRANSMIT A CORRECTION SIGNAL
550
500

FIG. 5

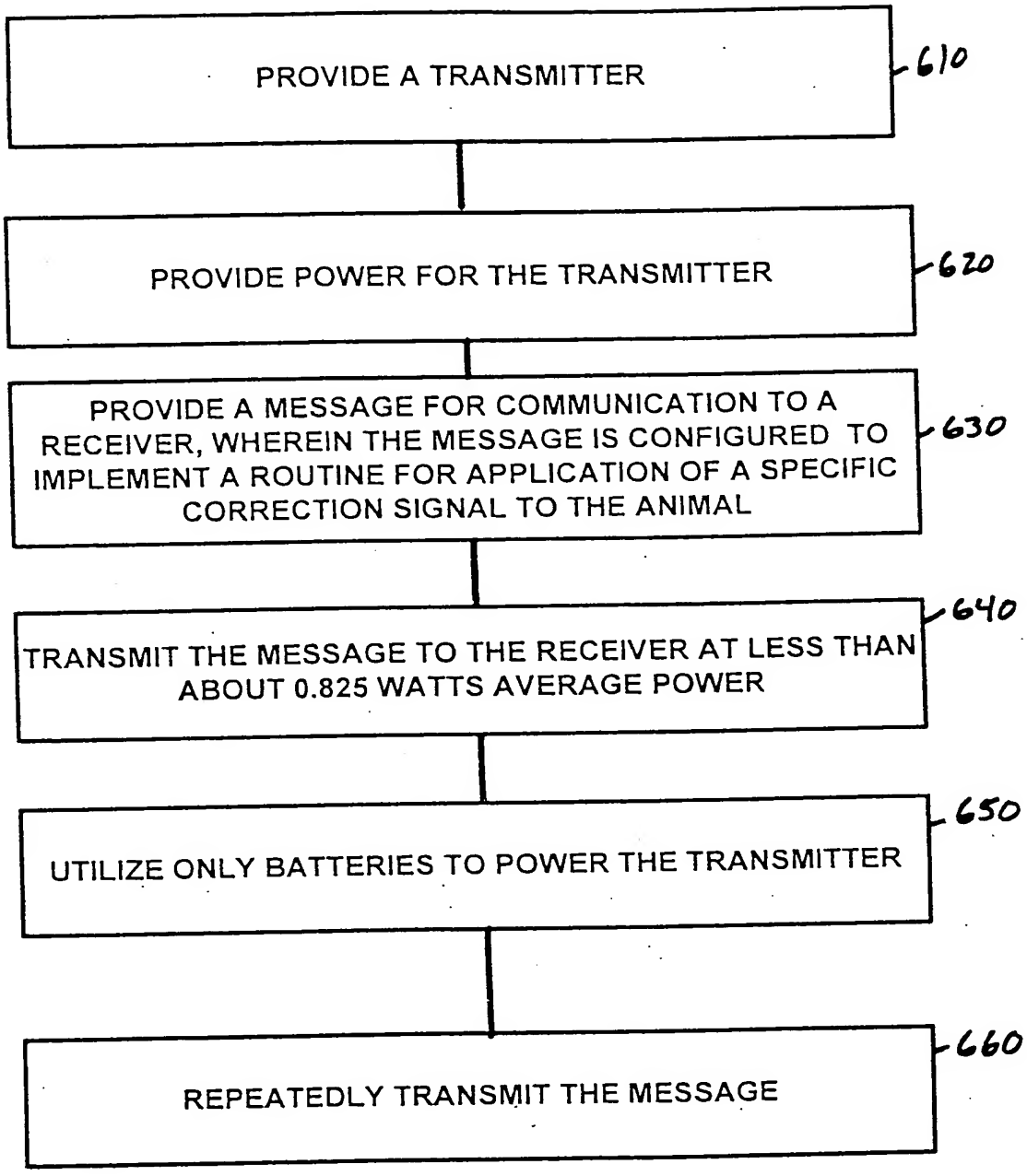
PROVIDE A TRANSMITTER
610
PROVIDE POWER FOR THE TRANSMITTER
620
PROVIDE A MESSAGE FOR COMMUNICATION TO A RECEIVER, WHEREIN THE MESSAGE IS CONFIGURED TO IMPLEMENT A ROUTINE FOR APPLICATION OF A SPECIFIC CORRECTION SIGNAL TO THE ANIMAL
630
TRANSMIT THE MESSAGE TO THE RECEIVER AT LESS THAN ABOUT 0.825 WATTS AVERAGE POWER
640
UTILIZE ONLY BATTERIES TO POWER THE TRANSMITTER
650
REPEATEDLY TRANSMIT THE MESSAGE
660
600

FIG. 6

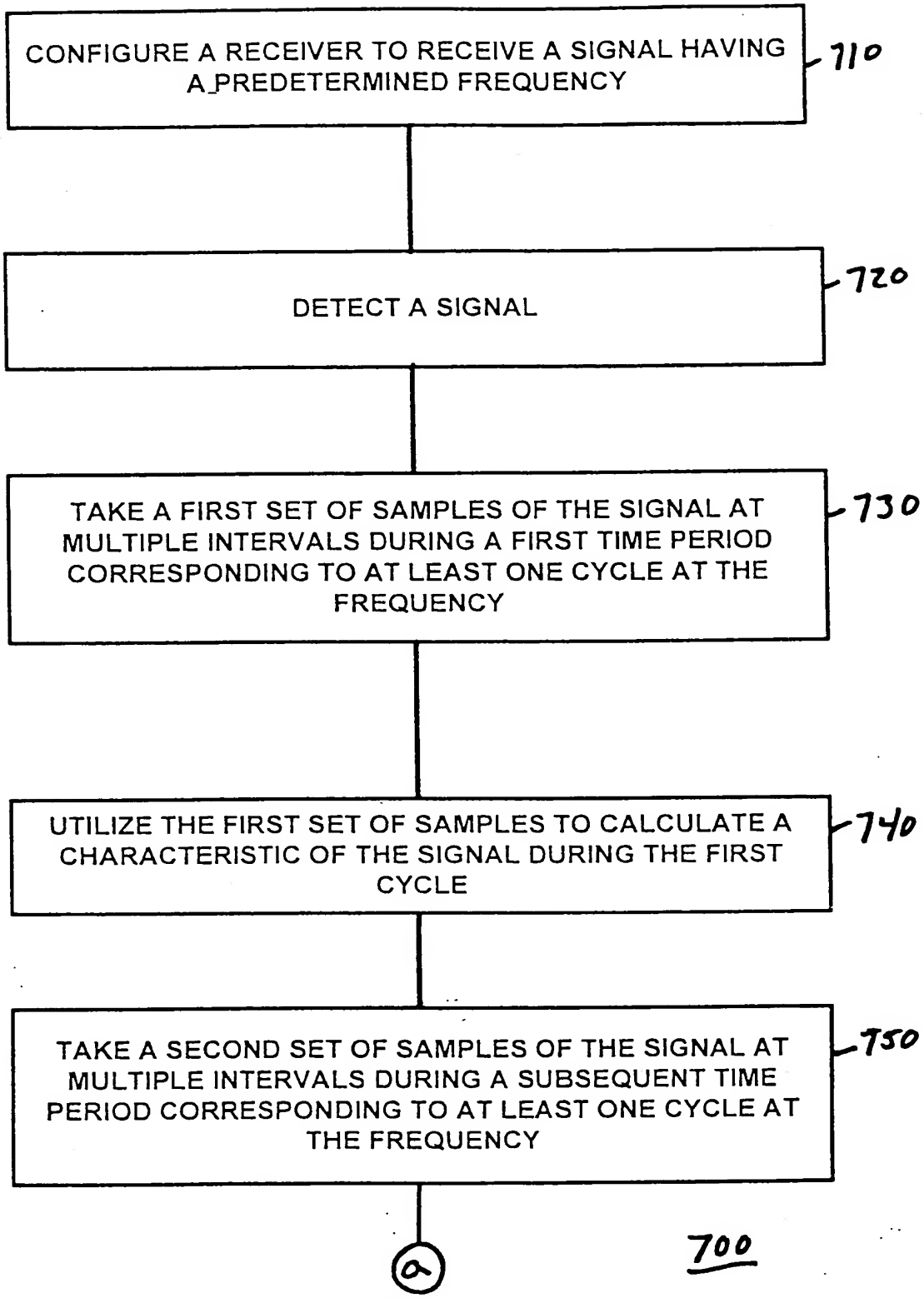
CONFIGURE A RECEIVER TO RECEIVE A SIGNAL HAVING A PREDETERMINED FREQUENCY
710
DETECT A SIGNAL
720
TAKE A FIRST SET OF SAMPLES OF THE SIGNAL AT MULTIPLE INTERVALS DURING A FIRST TIME PERIOD CORRESPONDING TO AT LEAST ONE CYCLE AT THE FREQUENCY
730
UTILIZE THE FIRST SET OF SAMPLES TO CALCULATE A CHARACTERISTIC OF THE SIGNAL DURING THE FIRST CYCLE
740
TAKE A SECOND SET OF SAMPLES OF THE SIGNAL AT MULTIPLE INTERVALS DURING A SUBSEQUENT TIME PERIOD CORRESPONDING TO AT LEAST ONE CYCLE AT THE FREQUENCY
750
a
700

FIG. 7a

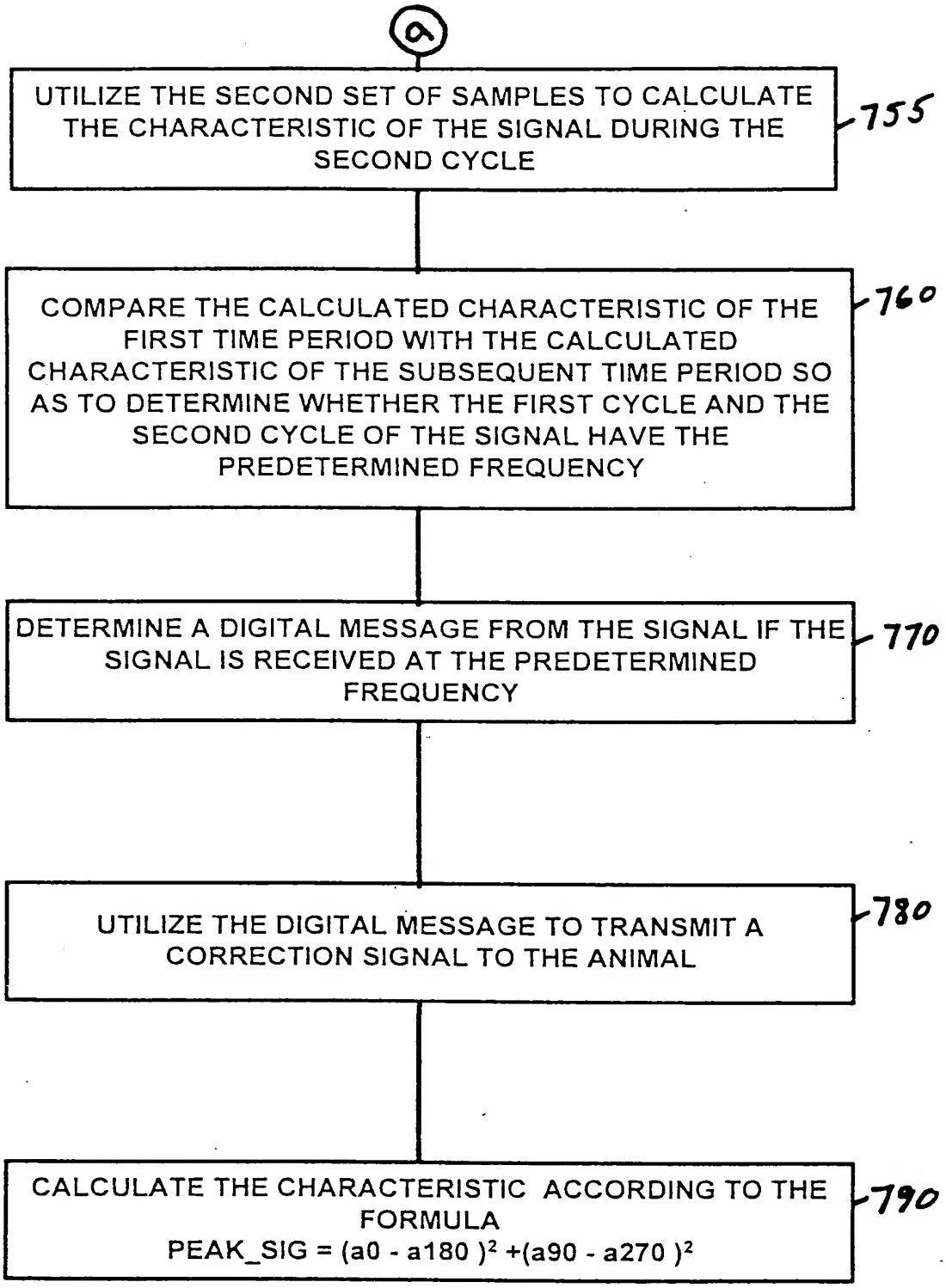
a
UTILIZE THE SECOND SET OF SAMPLES TO CALCULATE THE CHARACTERISTIC OF THE SIGNAL DURING THE SECOND CYCLE
755
COMPARE THE CALCULATED CHARACTERISTIC OF THE FIRST TIME PERIOD WITH THE CALCULATED CHARACTERISTIC OF THE SUBSEQUENT TIME PERIOD SO AS TO DETERMINE WHETHER THE FIRST CYCLE AND THE SECOND CYCLE OF THE SIGNAL HAVE THE PREDETERMINED FREQUENCY
760
DETERMINE A DIGITAL MESSAGE FROM THE SIGNAL IF THE SIGNAL IS RECEIVED AT THE PREDETERMINED FREQUENCY
770
UTILIZE THE DIGITAL MESSAGE TO TRANSMIT A CORRECTION SIGNAL TO THE ANIMAL
780
CALCULATE THE CHARACTERISTIC ACCORDING TO THE FORMULA
PEAK_SIG = (a0 - a180)² +(a90 - a270)²
790

FIG. 7b

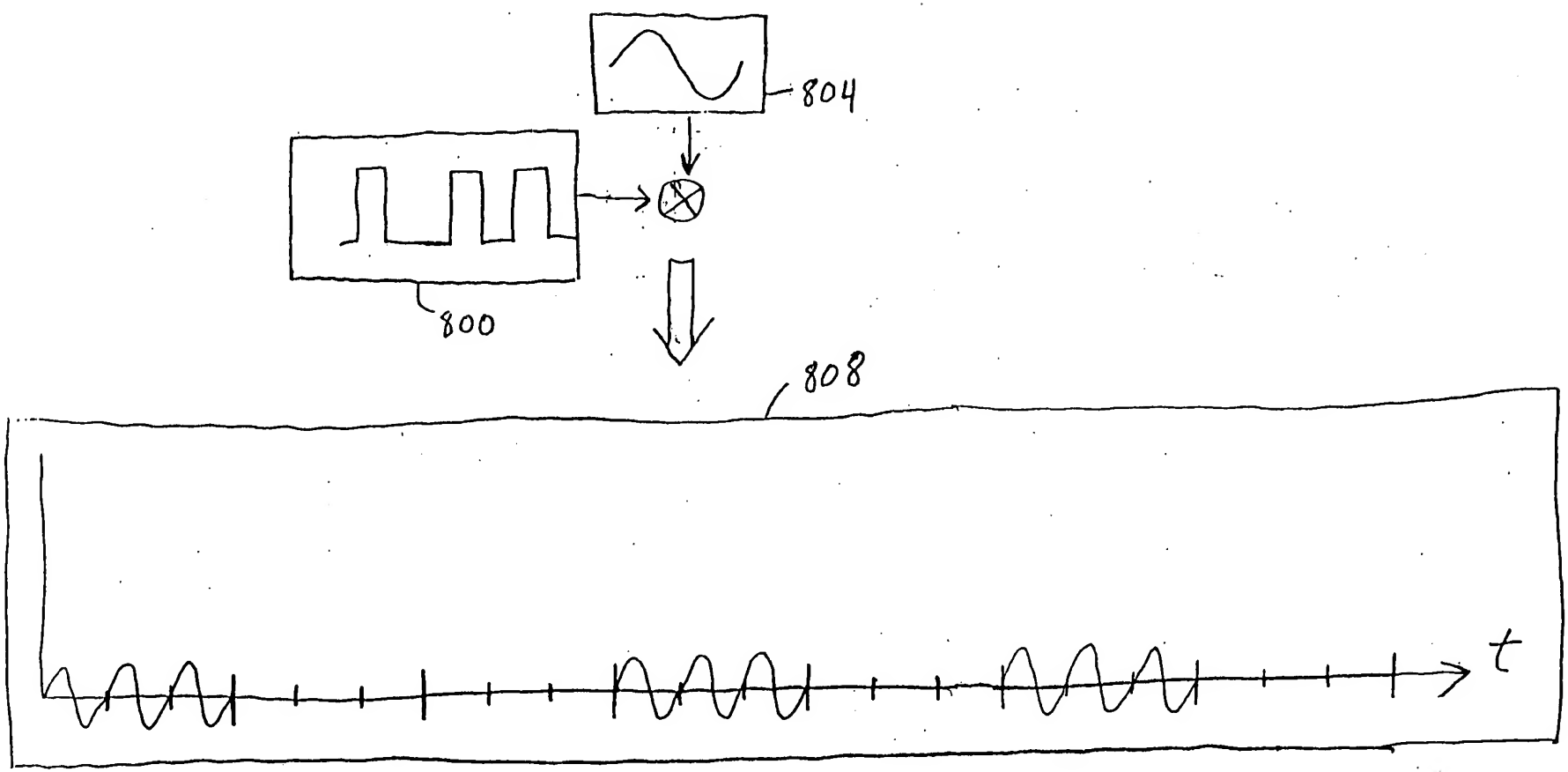

FIG. 8

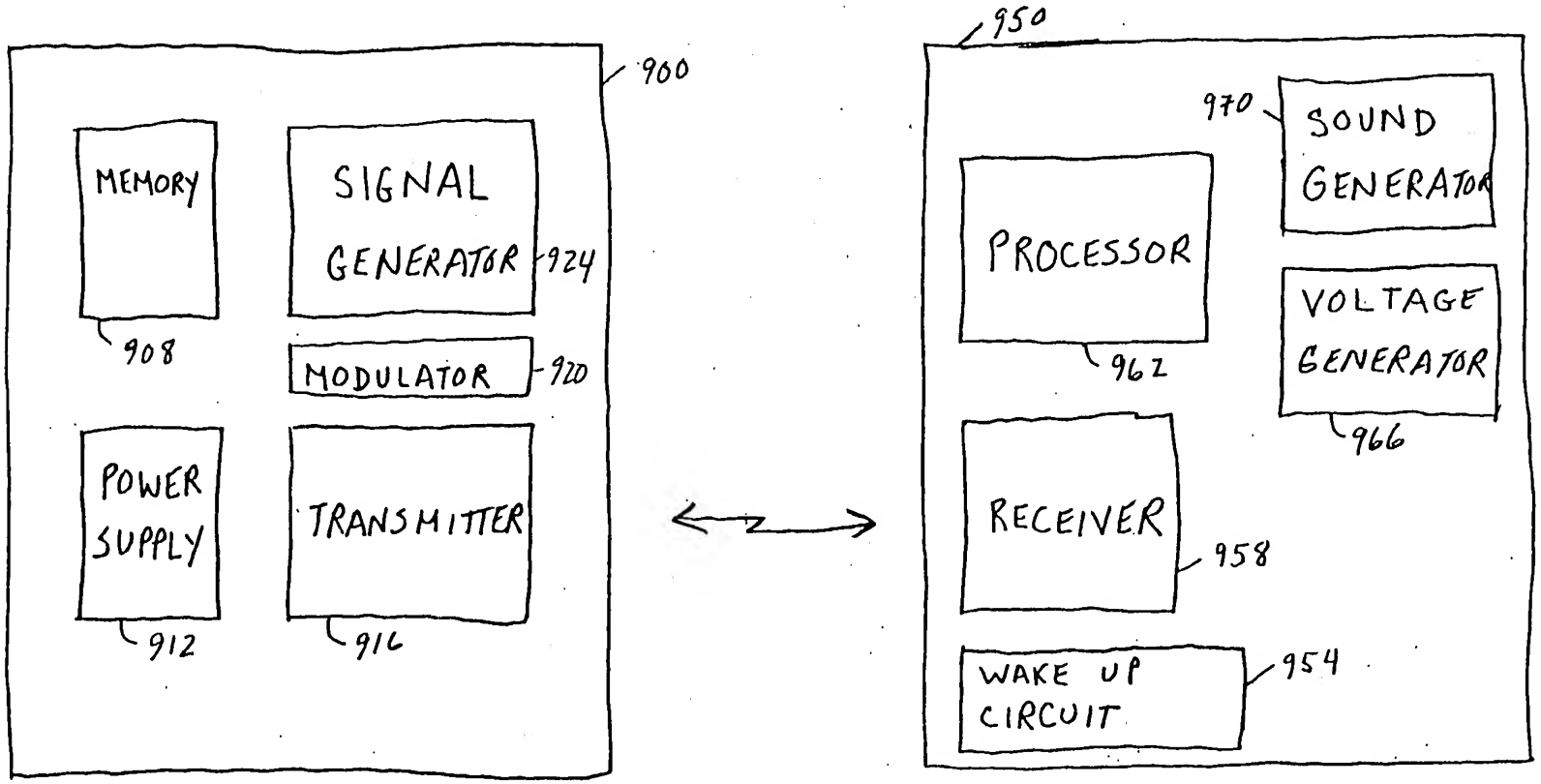
900
MEMORY
908
SIGNAL GENERATOR
924
MODULATOR
920
POWER SUPPLY
912
TRANSMITTER
916
950
970
SOUND GENERATOR
PROCESSOR
962
VOLTAGE GENERATOR
966
RECEIVER
958
WAKE UP CIRCUIT
954

FIG. 9

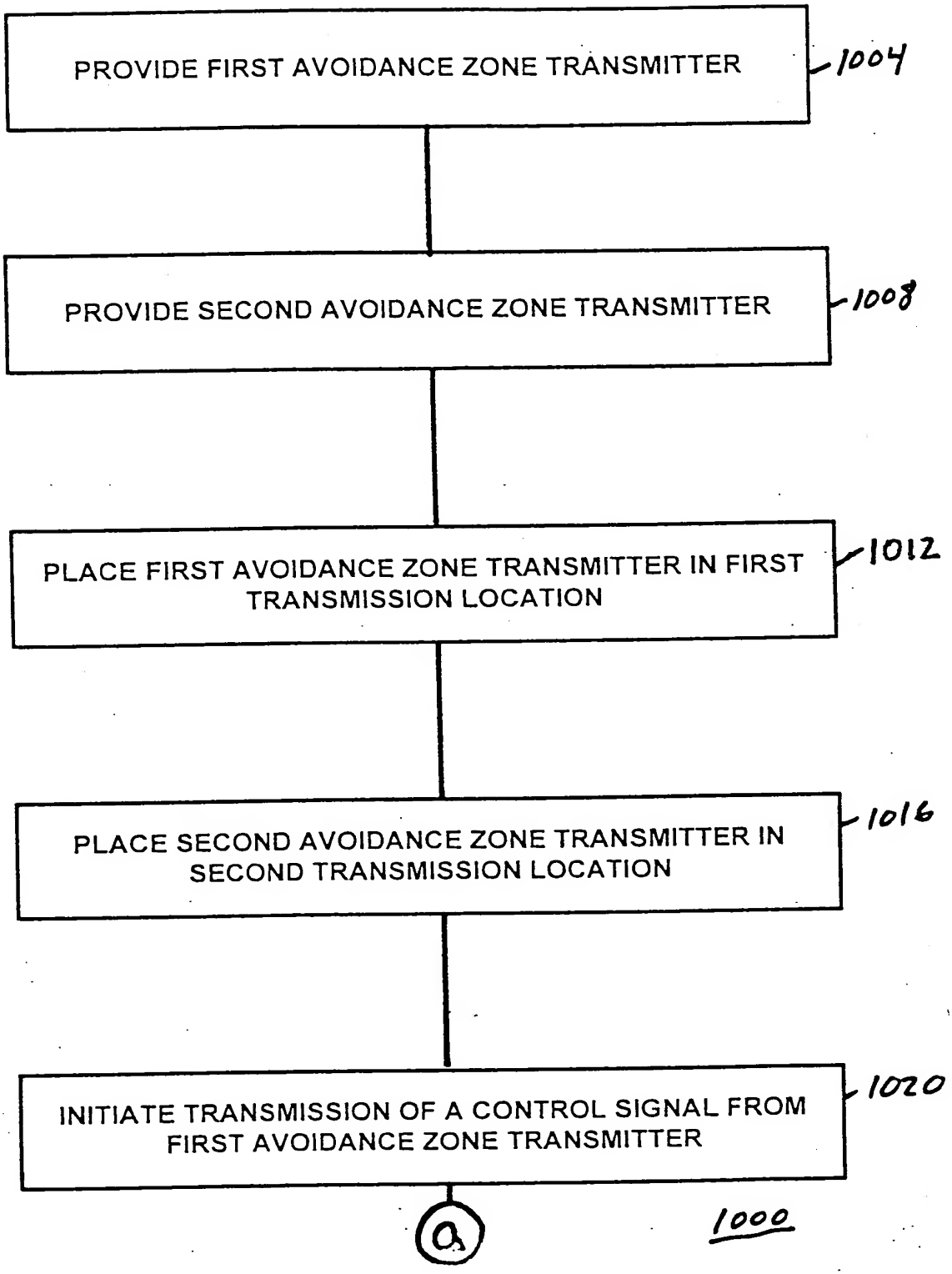
PROVIDE FIRST AVOIDANCE ZONE TRANSMITTER
1004
PROVIDE SECOND AVOIDANCE ZONE TRANSMITTER
1008
PLACE FIRST AVOIDANCE ZONE TRANSMITTER IN FIRST TRANSMISSION LOCATION
1012
PLACE SECOND AVOIDANCE ZONE TRANSMITTER IN SECOND TRANSMISSION LOCATION
1016
INITIATE TRANSMISSION OF A CONTROL SIGNAL FROM FIRST AVOIDANCE ZONE TRANSMITTER
1020
a
1000

FIG. 10a

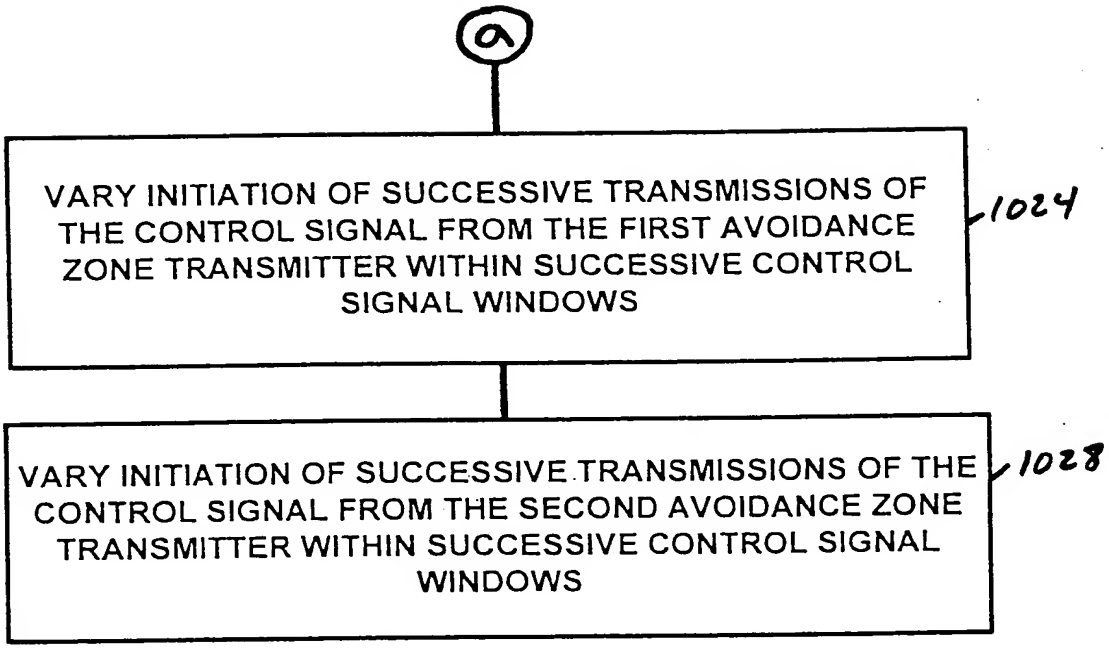
a
VARY INITIATION OF SUCCESSIVE TRANSMISSIONS OF THE CONTROL SIGNAL FROM THE FIRST AVOIDANCE ZONE TRANSMITTER WITHIN SUCCESSIVE CONTROL SIGNAL WINDOWS
1024
VARY INITIATION OF SUCCESSIVE TRANSMISSIONS OF THE CONTROL SIGNAL FROM THE SECOND AVOIDANCE ZONE TRANSMITTER WITHIN SUCCESSIVE CONTROL SIGNAL WINDOWS
1028

FIG. 10b

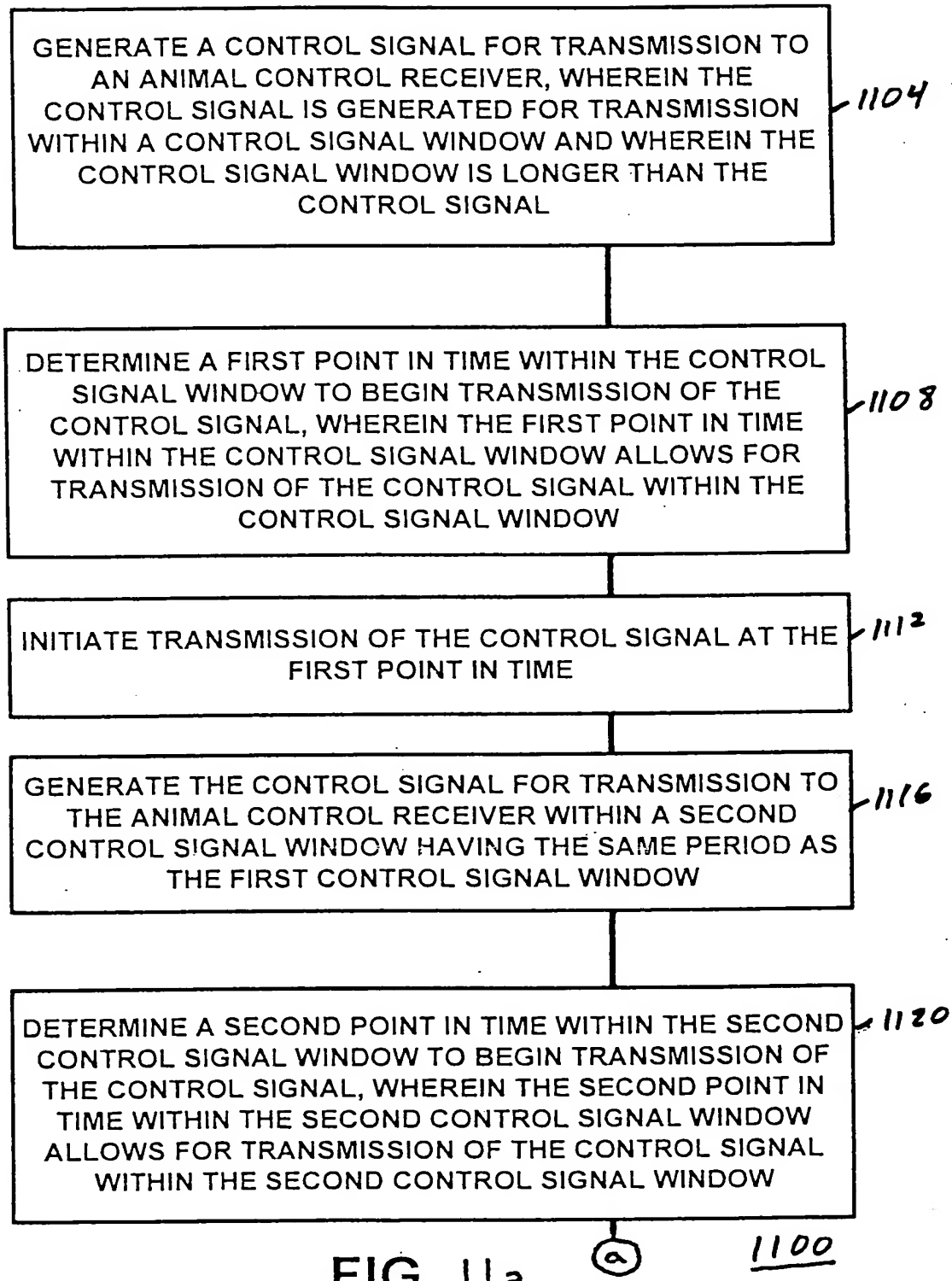
GENERATE A CONTROL SIGNAL FOR TRANSMISSION TO AN ANIMAL CONTROL RECEIVER, WHEREIN THE CONTROL SIGNAL IS GENERATED FOR TRANSMISSION WITHIN A CONTROL SIGNAL WINDOW AND WHEREIN THE CONTROL SIGNAL WINDOW IS LONGER THAN THE CONTROL SIGNAL
1104
DETERMINE A FIRST POINT IN TIME WITHIN THE CONTROL SIGNAL WINDOW TO BEGIN TRANSMISSION OF THE CONTROL SIGNAL, WHEREIN THE FIRST POINT IN TIME WITHIN THE CONTROL SIGNAL WINDOW ALLOWS FOR TRANSMISSION OF THE CONTROL SIGNAL WITHIN THE CONTROL SIGNAL WINDOW
1108
INITIATE TRANSMISSION OF THE CONTROL SIGNAL AT THE FIRST POINT IN TIME
1112
GENERATE THE CONTROL SIGNAL FOR TRANSMISSION TO THE ANIMAL CONTROL RECEIVER WITHIN A SECOND CONTROL SIGNAL WINDOW HAVING THE SAME PERIOD AS THE FIRST CONTROL SIGNAL WINDOW
1116
DETERMINE A SECOND POINT IN TIME WITHIN THE SECOND CONTROL SIGNAL WINDOW TO BEGIN TRANSMISSION OF THE CONTROL SIGNAL, WHEREIN THE SECOND POINT IN TIME WITHIN THE SECOND CONTROL SIGNAL WINDOW ALLOWS FOR TRANSMISSION OF THE CONTROL SIGNAL WITHIN THE SECOND CONTROL SIGNAL WINDOW
1120
A
1100

FIG. 11a

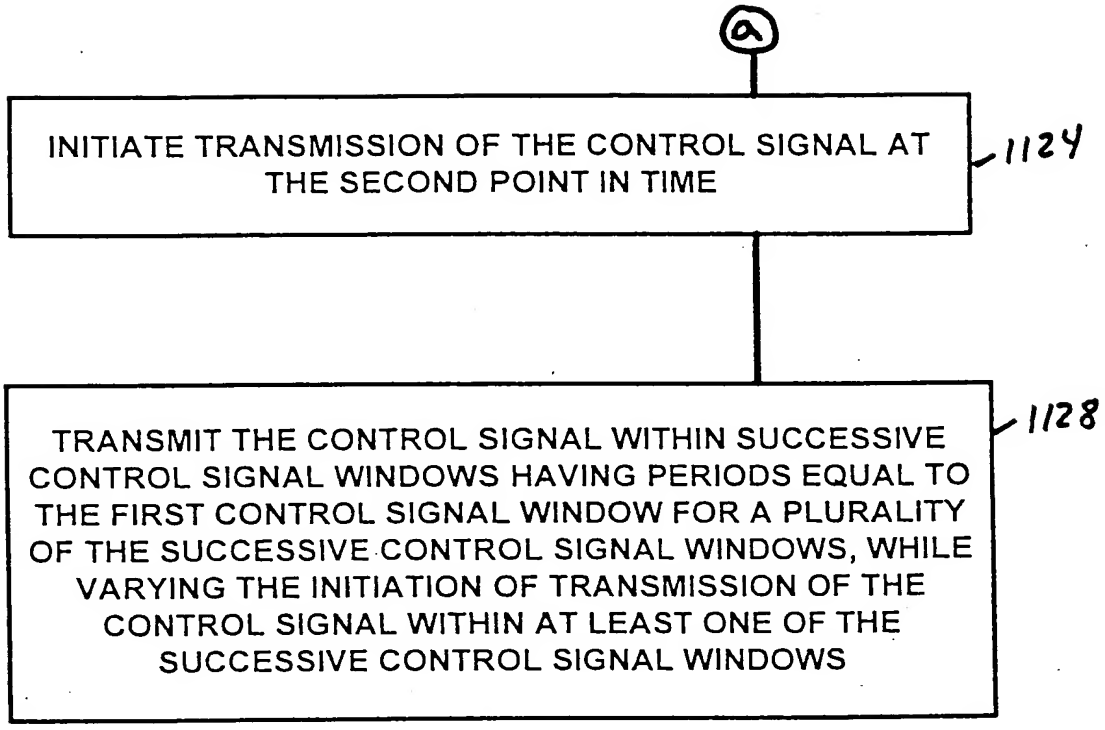
a
INITIATE TRANSMISSION OF THE CONTROL SIGNAL AT THE SECOND POINT IN TIME
1124
TRANSMIT THE CONTROL SIGNAL WITHIN SUCCESSIVE CONTROL SIGNAL WINDOWS HAVING PERIODS EQUAL TO THE FIRST CONTROL SIGNAL WINDOW FOR A PLURALITY OF THE SUCCESSIVE CONTROL SIGNAL WINDOWS, WHILE VARYING THE INITIATION OF TRANSMISSION OF THE CONTROL SIGNAL WITHIN AT LEAST ONE OF THE SUCCESSIVE CONTROL SIGNAL WINDOWS
1128

FIG. 11b

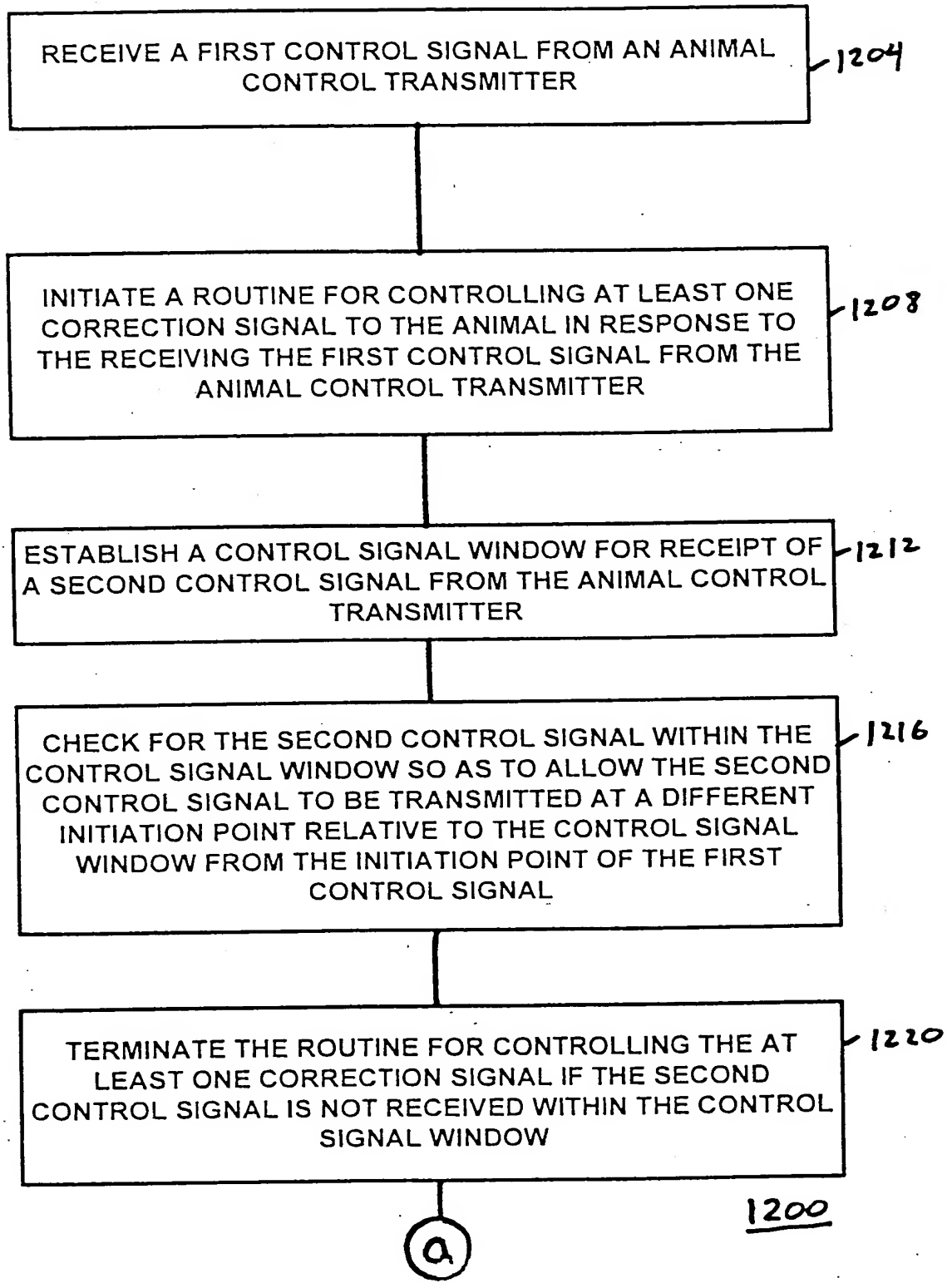
RECEIVE A FIRST CONTROL SIGNAL FROM AN ANIMAL CONTROL TRANSMITTER
1204
INITIATE A ROUTINE FOR CONTROLLING AT LEAST ONE CORRECTION SIGNAL TO THE ANIMAL IN RESPONSE TO THE RECEIVING THE FIRST CONTROL SIGNAL FROM THE ANIMAL CONTROL TRANSMITTER
1208
ESTABLISH A CONTROL SIGNAL WINDOW FOR RECEIPT OF A SECOND CONTROL SIGNAL FROM THE ANIMAL CONTROL TRANSMITTER
1212
CHECK FOR THE SECOND CONTROL SIGNAL WITHIN THE CONTROL SIGNAL WINDOW SO AS TO ALLOW THE SECOND CONTROL SIGNAL TO BE TRANSMITTED AT A DIFFERENT INITIATION POINT RELATIVE TO THE CONTROL SIGNAL WINDOW FROM THE INITIATION POINT OF THE FIRST CONTROL SIGNAL
1216
TERMINATE THE ROUTINE FOR CONTROLLING THE AT LEAST ONE CORRECTION SIGNAL IF THE SECOND CONTROL SIGNAL IS NOT RECEIVED WITHIN THE CONTROL SIGNAL WINDOW
1220
1200
a

FIG. 12a

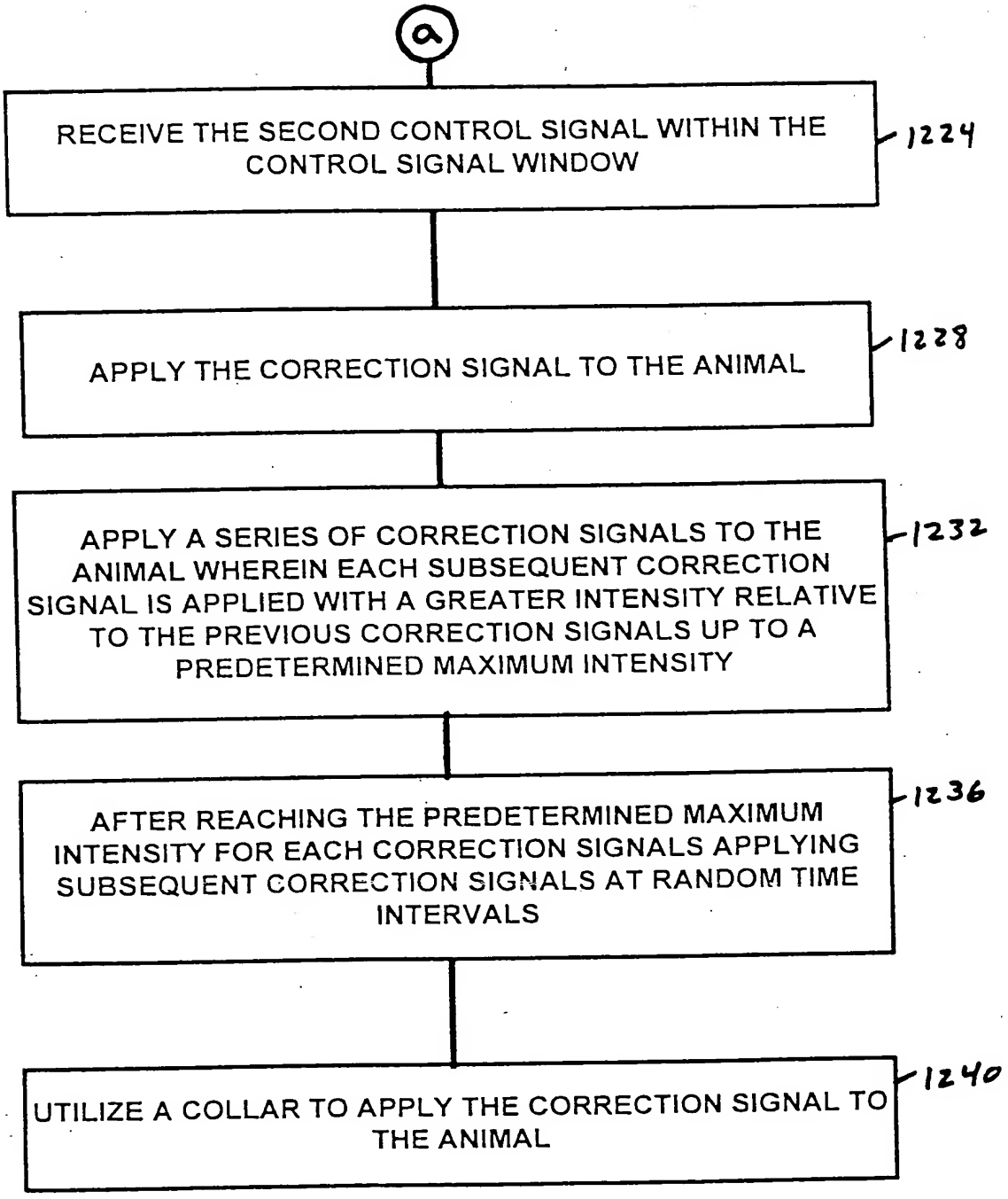
a
RECEIVE THE SECOND CONTROL SIGNAL WITHIN THE CONTROL SIGNAL WINDOW
1224
APPLY THE CORRECTION SIGNAL TO THE ANIMAL
1228
APPLY A SERIES OF CORRECTION SIGNALS TO THE ANIMAL WHEREIN EACH SUBSEQUENT CORRECTION SIGNAL IS APPLIED WITH A GREATER INTENSITY RELATIVE TO THE PREVIOUS CORRECTION SIGNALS UP TO A PREDETERMINED MAXIMUM INTENSITY
1232
AFTER REACHING THE PREDETERMINED MAXIMUM INTENSITY FOR EACH CORRECTION SIGNALS APPLYING SUBSEQUENT CORRECTION SIGNALS AT RANDOM TIME INTERVALS
1236
UTILIZE A COLLAR TO APPLY THE CORRECTION SIGNAL TO THE ANIMAL
1240

FIG. 12b

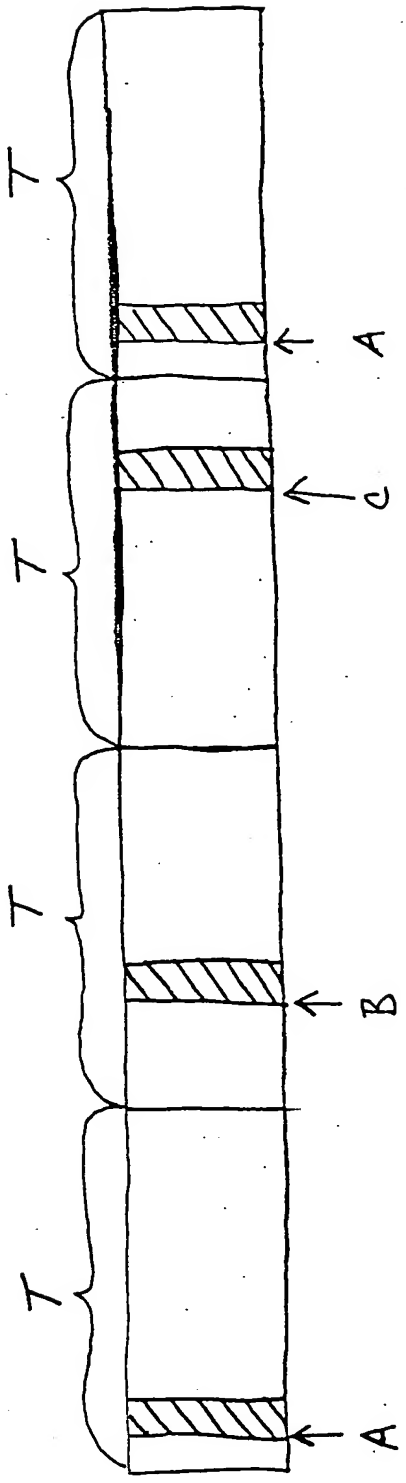

FIG. 13

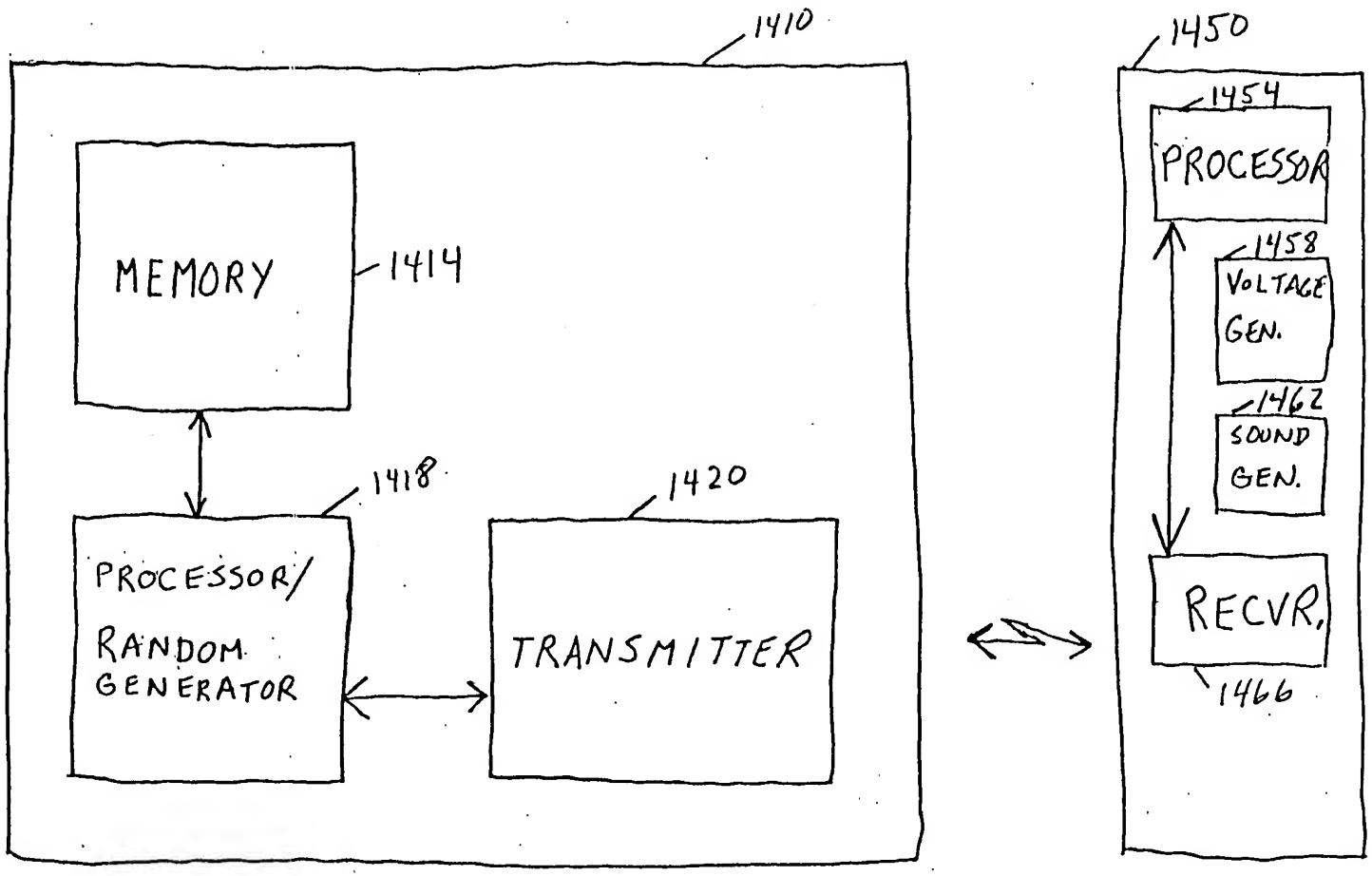
1410
MEMORY
1414
1418
PROCESSOR/
RANDOM
GENERATOR
1420
TRANSMITTER
1450
1454
PROCESSOR
1458
VOLTAGE
GEN.
1462
SOUND
GEN.
RECVR.
1466
1400

FIG. 14

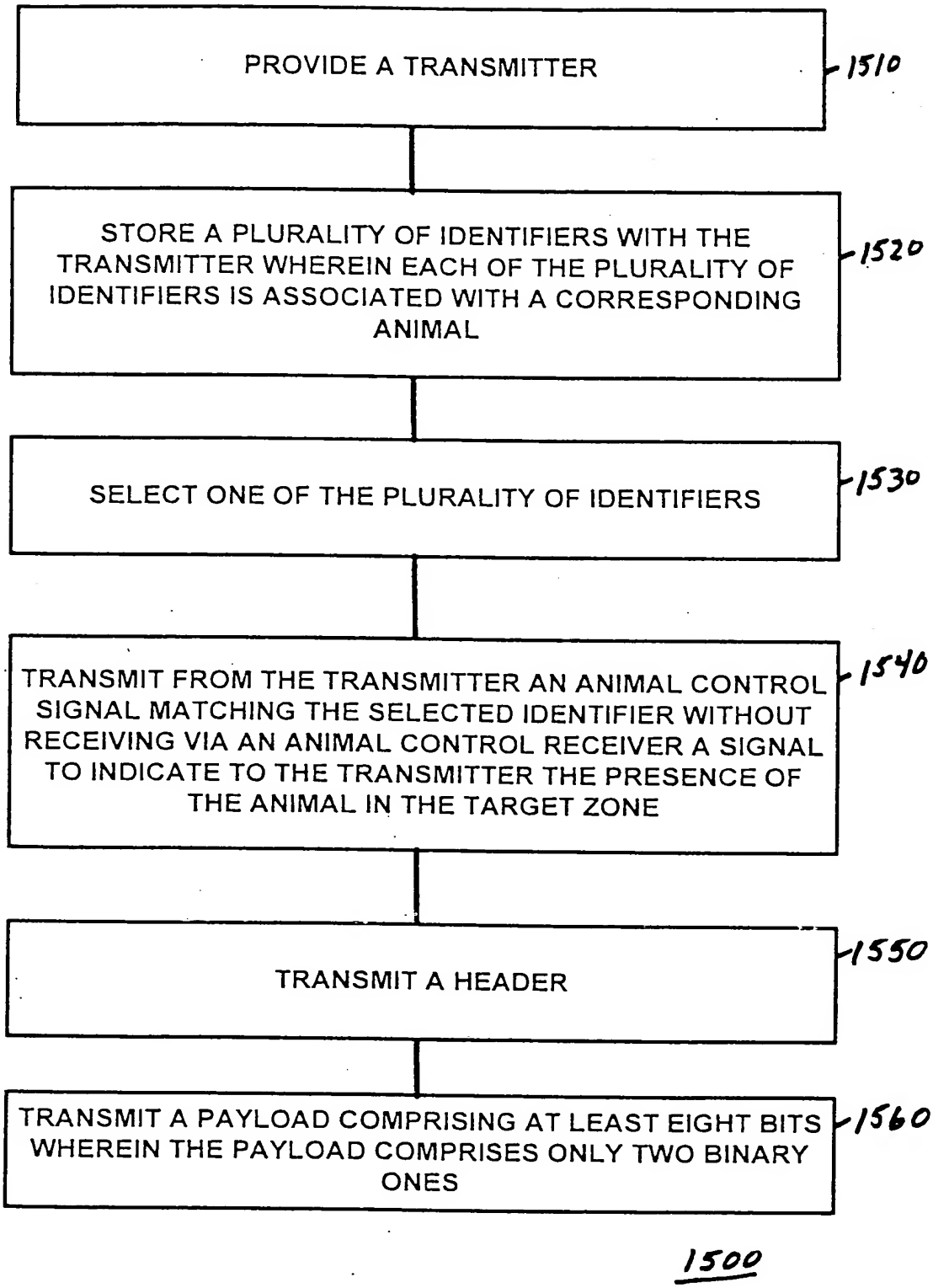
PROVIDE A TRANSMITTER
1510
STORE A PLURALITY OF IDENTIFIERS WITH THE TRANSMITTER WHEREIN EACH OF THE PLURALITY OF IDENTIFIERS IS ASSOCIATED WITH A CORRESPONDING ANIMAL
1520
SELECT ONE OF THE PLURALITY OF IDENTIFIERS
1530
TRANSMIT FROM THE TRANSMITTER AN ANIMAL CONTROL SIGNAL MATCHING THE SELECTED IDENTIFIER WITHOUT RECEIVING VIA AN ANIMAL CONTROL RECEIVER A SIGNAL TO INDICATE TO THE TRANSMITTER THE PRESENCE OF THE ANIMAL IN THE TARGET ZONE
1540
TRANSMIT A HEADER
1550
TRANSMIT A PAYLOAD COMPRISING AT LEAST EIGHT BITS WHEREIN THE PAYLOAD COMPRISES ONLY TWO BINARY ONES
1560
1500

FIG. 15

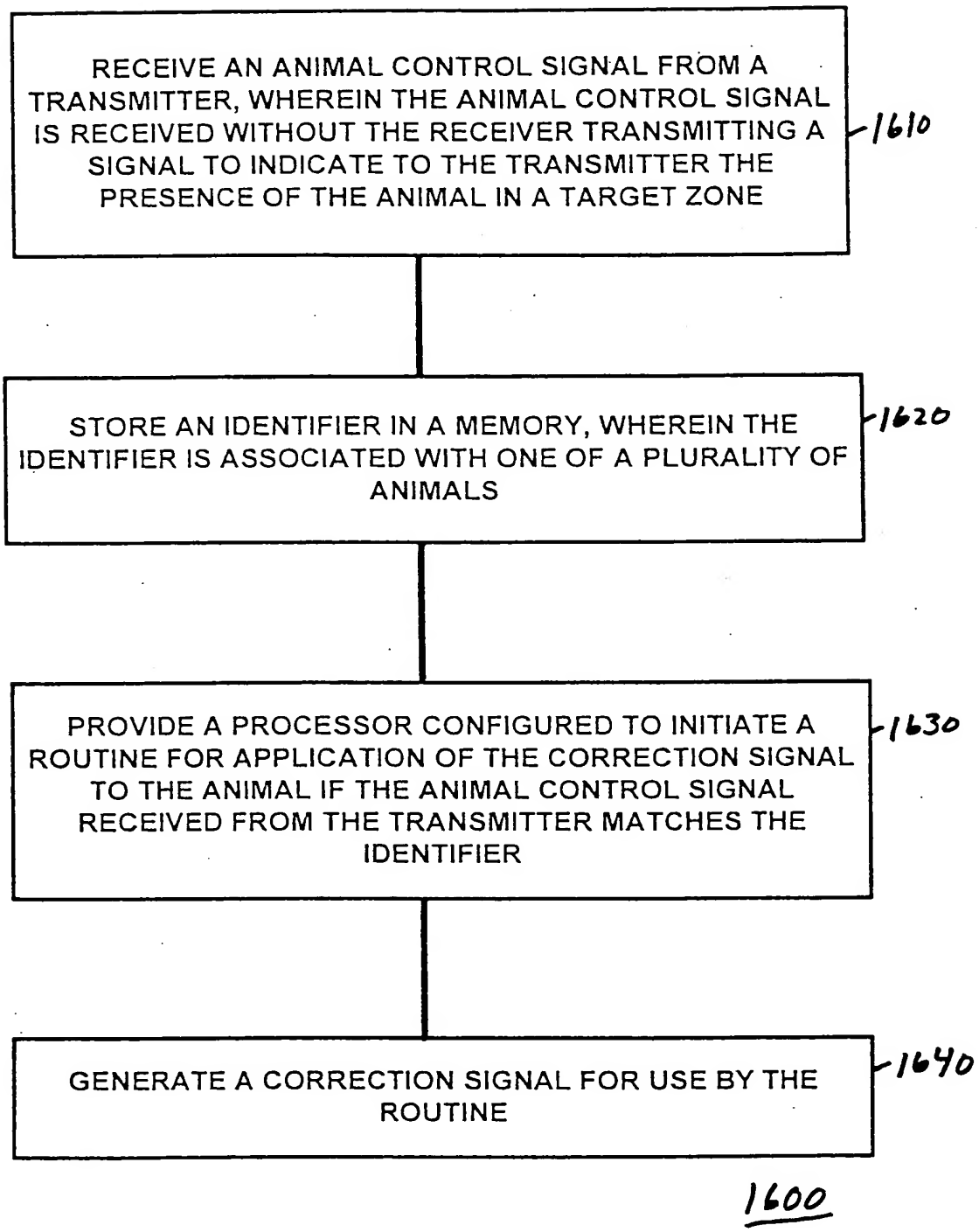
RECEIVE AN ANIMAL CONTROL SIGNAL FROM A TRANSMITTER, WHEREIN THE ANIMAL CONTROL SIGNAL IS RECEIVED WITHOUT THE RECEIVER TRANSMITTING A SIGNAL TO INDICATE TO THE TRANSMITTER THE PRESENCE OF THE ANIMAL IN A TARGET ZONE
1610
STORE AN IDENTIFIER IN A MEMORY, WHEREIN THE IDENTIFIER IS ASSOCIATED WITH ONE OF A PLURALITY OF ANIMALS
1620
PROVIDE A PROCESSOR CONFIGURED TO INITIATE A ROUTINE FOR APPLICATION OF THE CORRECTION SIGNAL TO THE ANIMAL IF THE ANIMAL CONTROL SIGNAL RECEIVED FROM THE TRANSMITTER MATCHES THE IDENTIFIER
1630
GENERATE A CORRECTION SIGNAL FOR USE BY THE ROUTINE
1640
1600

FIG. 16

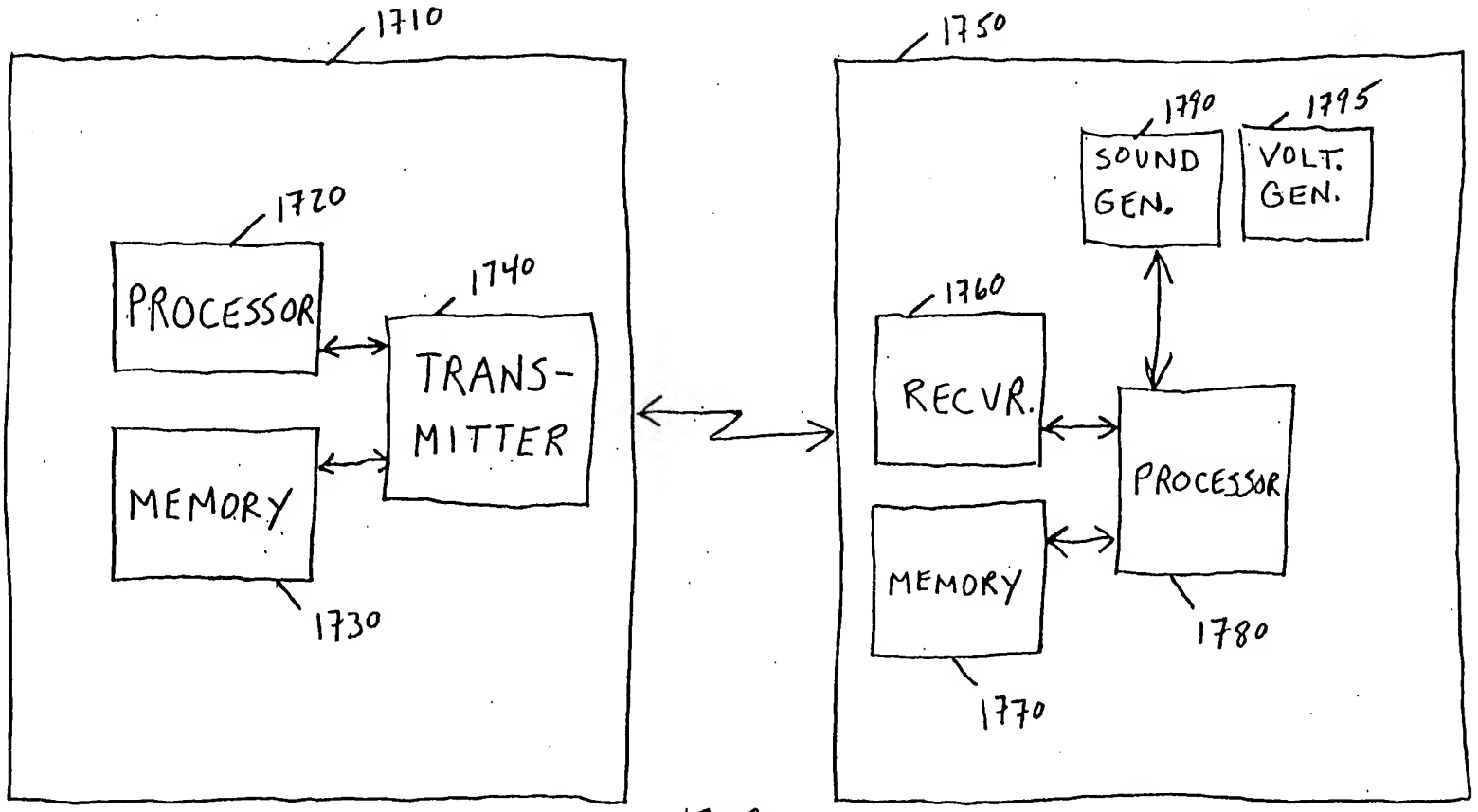
1710
1720
PROCESSOR
1740
TRANS-
MITTER
MEMORY
1730
1750
1790
SOUND
GEN.
1795
VOLT.
GEN.
1760
RECVR.
PROCESSOR
MEMORY
1780
1770
1700

FIG. 17

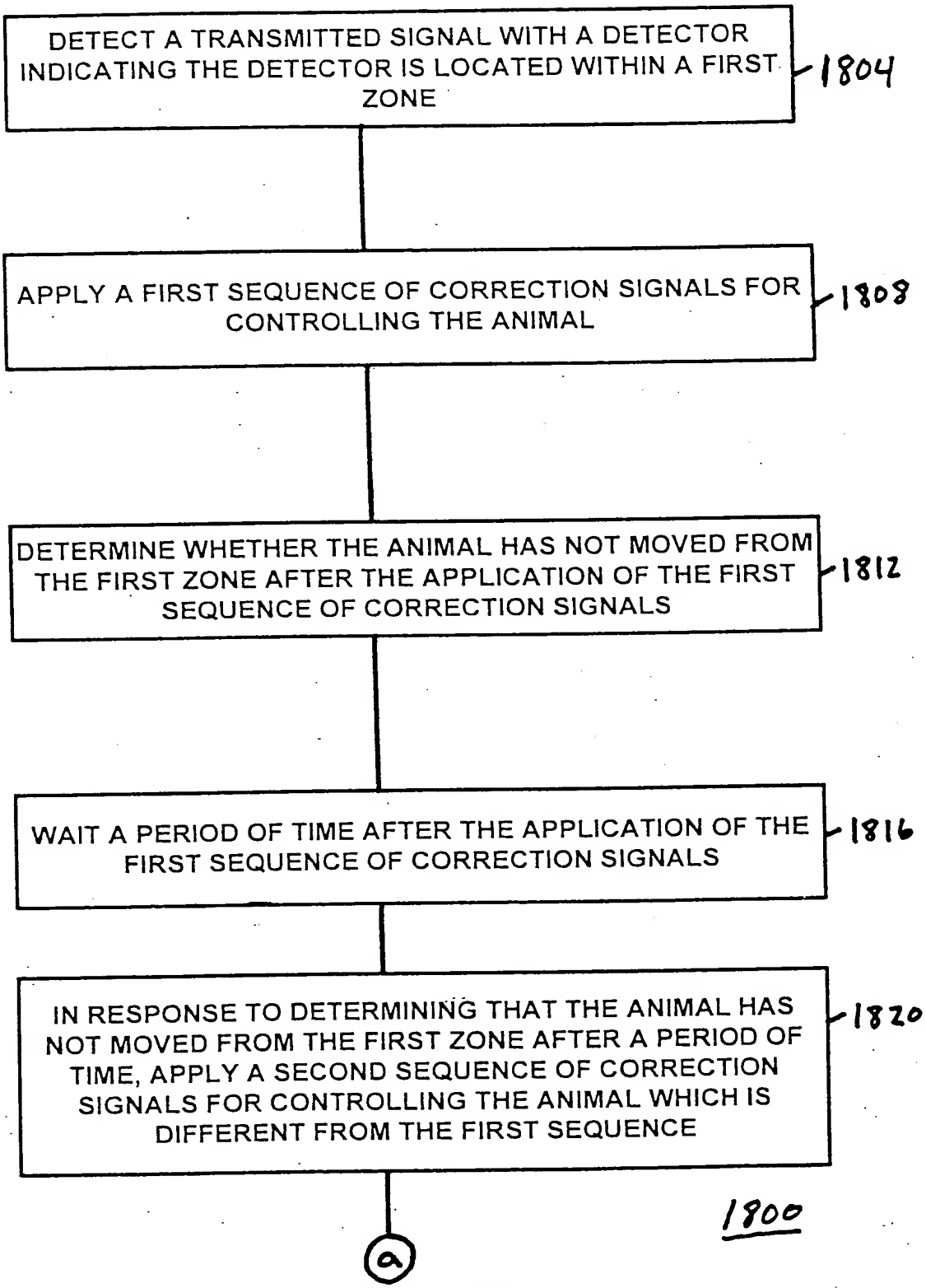
DETECT A TRANSMITTED SIGNAL WITH A DETECTOR INDICATING THE DETECTOR IS LOCATED WITHIN A FIRST ZONE
1804
APPLY A FIRST SEQUENCE OF CORRECTION SIGNALS FOR CONTROLLING THE ANIMAL
1808
DETERMINE WHETHER THE ANIMAL HAS NOT MOVED FROM THE FIRST ZONE AFTER THE APPLICATION OF THE FIRST SEQUENCE OF CORRECTION SIGNALS
1812
WAIT A PERIOD OF TIME AFTER THE APPLICATION OF THE FIRST SEQUENCE OF CORRECTION SIGNALS
1816
IN RESPONSE TO DETERMINING THAT THE ANIMAL HAS NOT MOVED FROM THE FIRST ZONE AFTER A PERIOD OF TIME, APPLY A SECOND SEQUENCE OF CORRECTION SIGNALS FOR CONTROLLING THE ANIMAL WHICH IS DIFFERENT FROM THE FIRST SEQUENCE
1820
1800
a

FIG. 18a

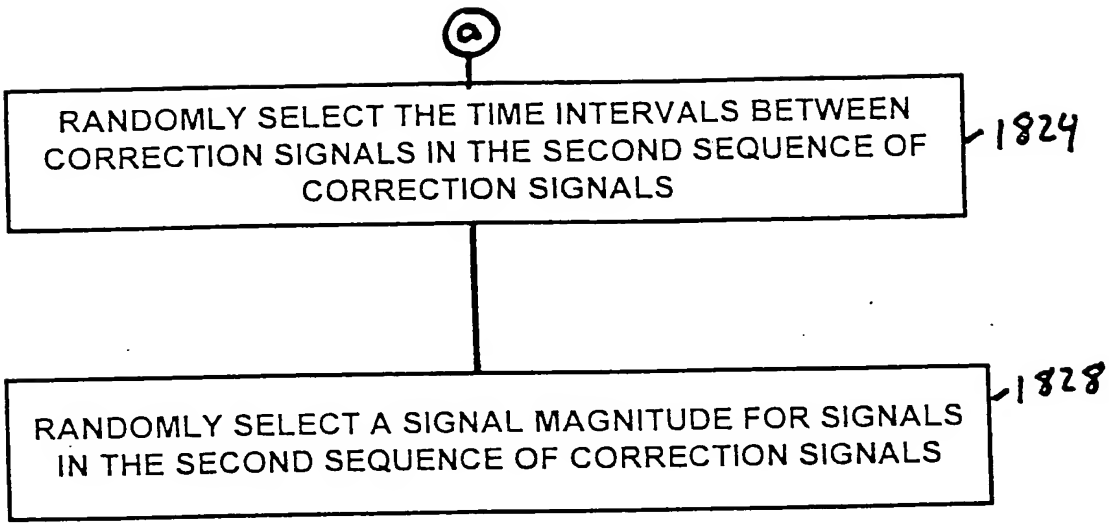
a
RANDOMLY SELECT THE TIME INTERVALS BETWEEN CORRECTION SIGNALS IN THE SECOND SEQUENCE OF CORRECTION SIGNALS
1824
RANDOMLY SELECT A SIGNAL MAGNITUDE FOR SIGNALS IN THE SECOND SEQUENCE OF CORRECTION SIGNALS
1828

FIG. 18b

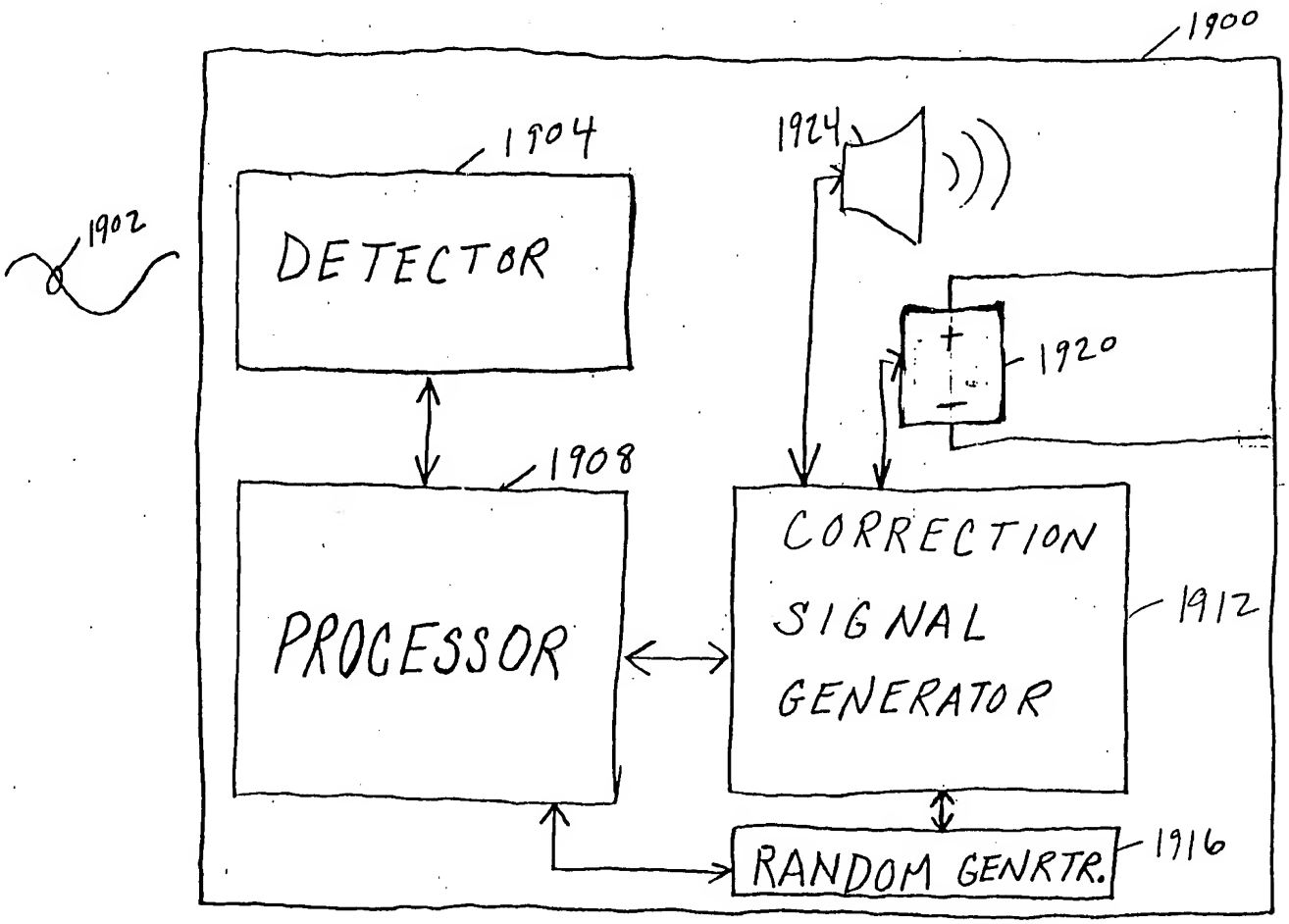
1900
1902
1904
DETECTOR
1924
1920
1908
PROCESSOR
CORRECTION
SIGNAL
GENERATOR
1912
RANDOM GENRTR.
1916

FIG. 19

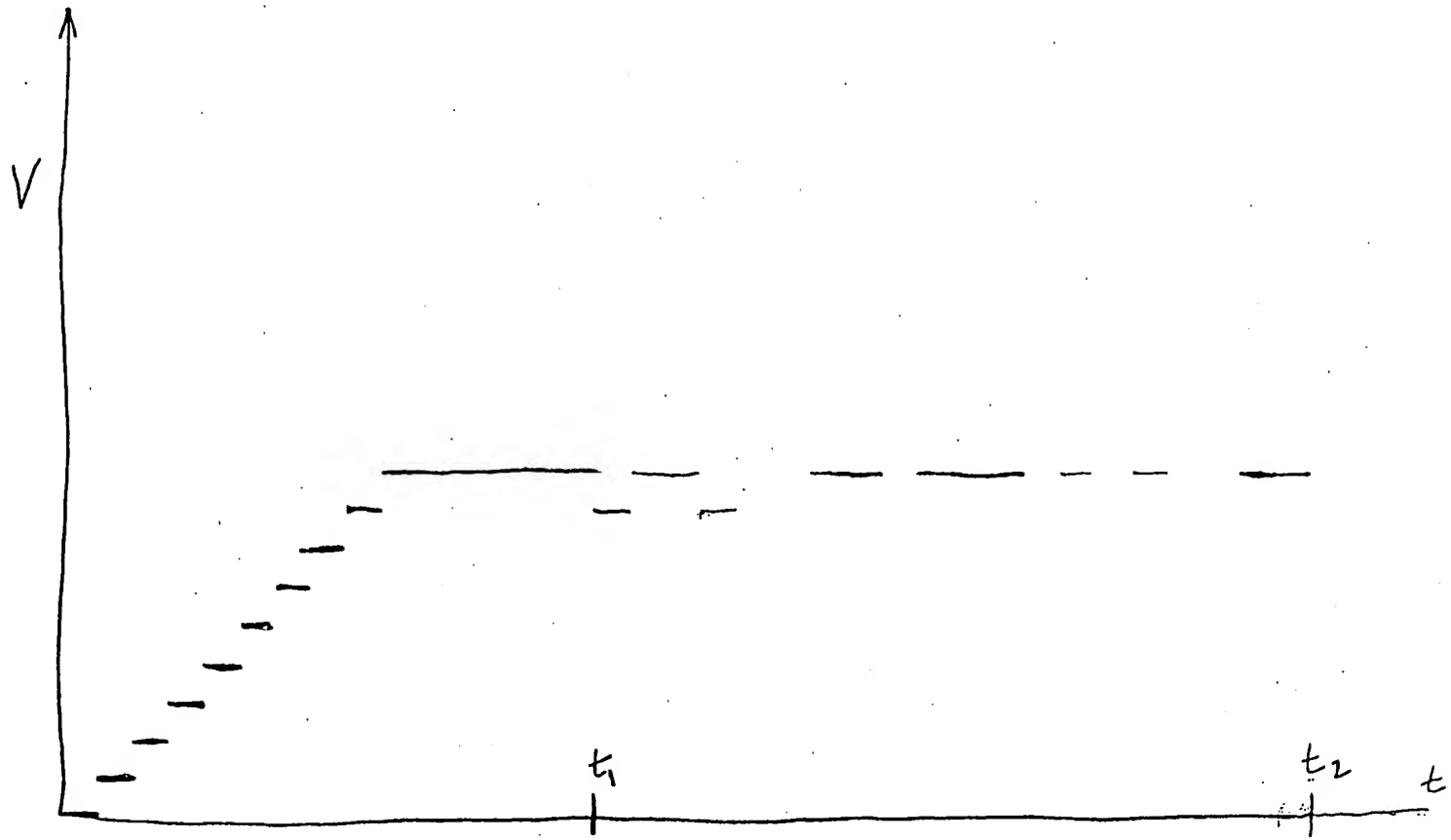

FIG. 20

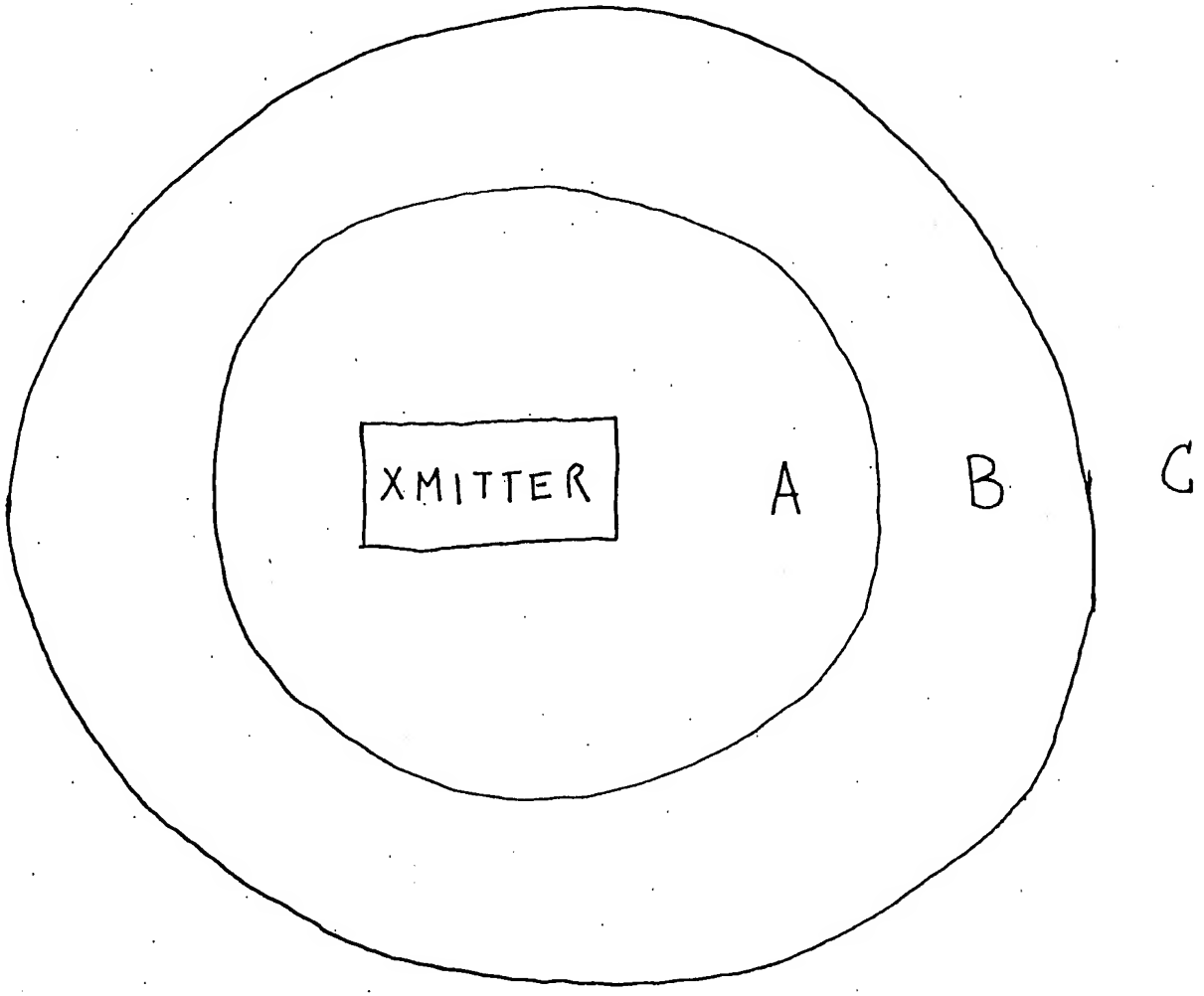

FIG. 21